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Acoustical Measurements of Heavy Fermion Compounds in Pulsed Magnetic Fields *

Alexei Souslov¹, Debashish Dasgupta¹, Jeff R. Feller¹, Marcelo Jaime²,
Fedor Balakirev², David G. Hinks³, Albert Migliori², Alex Lacerda², John B. Ketterson⁴,
Bimal K. Sarma¹

¹ *Physics Department, University of Wisconsin-Milwaukee, Milwaukee, WI 53201,
USA*

² *National High Magnetic Field Laboratory, Los Alamos, NM 87545, USA*

³ *Materials Science & Technology, Argonne National Laboratory, Argonne, IL 60439,
USA*

⁴ *Northwestern University, Evanston, IL 60208, USA*

Ultrasonic properties of UPt_3 and URu_2Si_2 crystals have been measured at 2-4 K in pulsed (25ms) magnetic fields up to 50T. In the frequency range from 20 to 400MHz, both the attenuation and velocity of sound, have changed in the vicinity of metamagnetic transition in these materials (around 20T and 40T respectively). Data shows that three transitions occur in URu_2Si_2 in agreement with magnetization results of other authors. For these measurements an original fast data acquisition ultrasonic spectrometer has been developed and assembled for these studies in pulsed magnetic field.

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